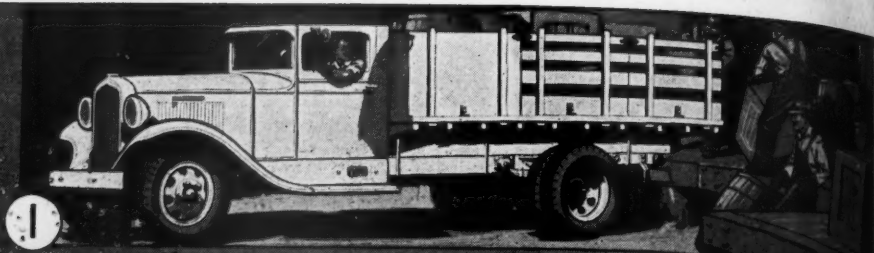


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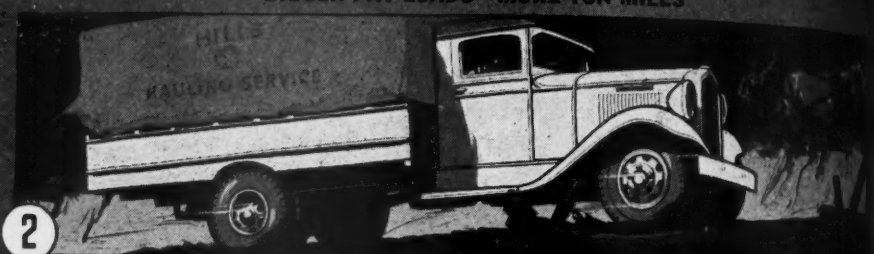


# 5 REASONS FOR SPECTACULAR GAINS IN REO TRUCK SALES



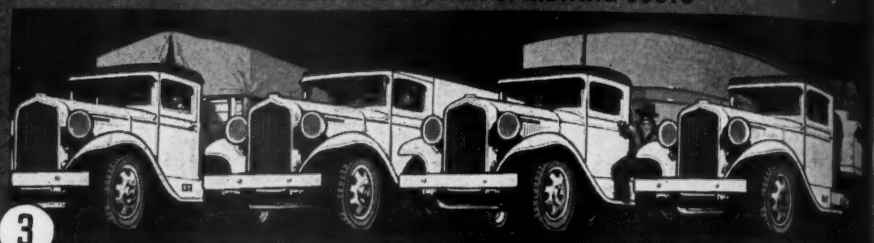
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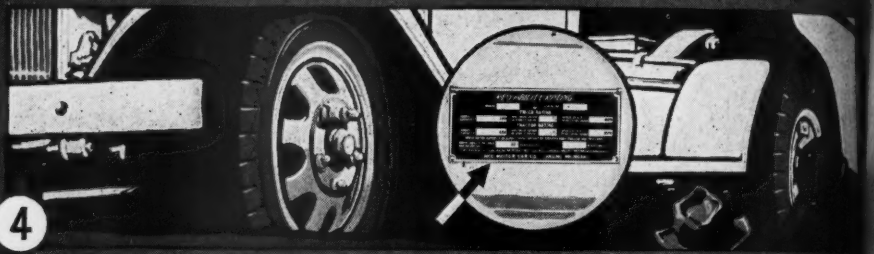
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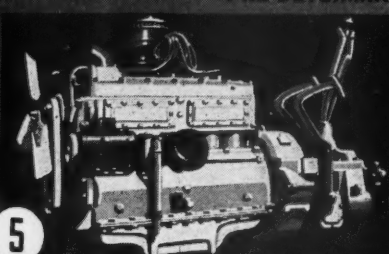
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A TYPE AND SIZE FOR NEARLY EVERY BUSINESS NEED



4

REO ABILITY RATING—PRE-DETERMINED PERFORMANCE—REO TRUCK PERFORMANCE DATA



5

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REO MOTOR CAR COMPANY, LANSING, MICHIGAN

# AMERICAN FRUIT GROWER

(Title Registered in U. S. Patent Office)

VOLUME 54 No. 6

JUNE, 1934

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## THE FIRE BATH\* OF A FRUIT GROWER

SOMETIMES a divine power appears to direct our lives. We plan and do things without apparent reason. Years later these actions become understandable. This was the case with a certain wealthy man. He planted an orchard to please a son who loved trees and was anxious to engage in horticulture. No expense was spared in developing this orchard. The boy's vision exceeded the comprehension of his parents, and had he lived, he would have seen the rich reward of his planting. But he was one of those brave Americans who did not return after the war. His spirit, however, seemed to spur the growth and development of his beloved orchard. During the depression the wealth of the family faded until only the fruit trees remained in the estate. The once wealthy father now turned hopefully to the boy's trees for means of support. For three years now, they have provided him with both spiritual and material comfort. This father, like the Phoenix of old, rose from the ashes of despair into a wholesome and more beautiful life. The orchard planted for the son proved a veritable treasure to the father himself.

Fruit growers do not need to be reminded of the potential possibilities of an orchard, but we all take many things for granted. Trees bear fruit—fruit is profit, and orchards become a commercial matter. In the pursuit of wealth, it is easy to lose sight of the grandness and munificence of Nature. In recent years many of us have learned that permanent happiness cannot be measured entirely by material success. It is refreshing, therefore, to find both profit and spiritual satisfaction in an orchard undertaking. Trees seldom disappoint; Nature never!

\*According to Egyptian mythology, the fire bath was taken every 500 years by the Phoenix, a miraculous bird which was consumed in fire and arose in youthful freshness from its own ashes.



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# Over the Editor's desk

AS the result of a varied and unusual winter and spring season throughout the entire country, present prospects for a fruit crop are as varied as the weather conditions have been during the last six months. Outside of a complete killing of peaches in the Northeast section of the country, there appears to be no fruit crop failures in any section. Apples bloomed somewhat light in some districts, but, as has been shown in other years, the final set of fruit may be decidedly unrelated to the size of bloom. Dry weather during blooming periods, with a complete absence of scab infection in many districts, has tended to make conditions for fruit-setting almost ideal.

There are two general factors which determine the grower's opportunity for securing a fair profit from his crop of fruit. One is concerned with the size of crop in the entire country and the buying power of the consumer. Over this factor the grower has very little if any control. He is, however, very much in control of another factor upon which a large share of the profit he can expect to make is determined. This second factor is the quality of fruit that he produces and his cost of production, based on the yield secured. In other words, the quantity and quality of his own crop, regardless of the general selling price throughout the country, will usually spell his success or failure, whichever the case may be. The fruit grower's own management, unless his orchard is poorly located to begin with, or his capital structure too top-heavy, is invariably the responsible factor in profitable production. This inescapable situation the fruit grower must face every year, in addition to other problems bestowed on him by Mother Nature or (if you want to call it) Fate.



AMONG the greatest opportunities for professional and adult education, travel is as beneficial to the average layman as any form of educational activity. For the fruit grower, during the few slack seasons he may find in winter or summer, there is no better way to get in touch with new and better methods of orchard practice than to visit the orchards of leading growers in the fruit sections of other states. Even the citrus grower has much to learn from the apple grower and vice versa.

Whether you travel only across a single state or across the entire continent, opportunities of this kind are very valuable adjuncts of a vacation. The greatest value from such a trip, however, depends upon a certain amount of advance information and planning, so as to prepare a schedule which will include the best orchard districts within reasonable distance limits.

Although AMERICAN FRUIT GROWER does not and cannot maintain a full fledged travel information bureau, its editorial staff will be glad to suggest to its individual readers who write us certain travel schedules which will give them a varied and ample opportunity to visit leading orchards and small fruit plantations in those areas adjacent to their route. Perhaps your 1934 trip will take you to the Century of Progress or across another section of the country, in which case, by a careful mapping out of both going and return routes, you can not only reap a maximum of pleasure, but an education in practical horticulture which will more than pay the cost of the entire trip.

LAST month we welcomed nearly 200 fruit growers into AMERICAN FRUIT GROWER's Fifty-Year Club as charter members. We appreciated the fact at that time, however, that there were still many other men who have served the fruit growing industry for 50 years. Already there are 12 more names we are pleased to add to the Club's roll call. Here they are:

Dr. E. L. Beal, Republic, Mo.; George Bren, Hopkins, Minn.; Frank Burke, Rivera, Calif.; Lawn Houghton, Norwalk, Calif.; L. W. Houghton, Rivera, Calif.; C. L. Jones, Corinna, Maine; L. W. Lipsey, Blanton, Fla.; Herman Luedloff, Cologne, Minn.; Frank W. Morrison, Downey, Calif.; E. P. Porcher, Cocoa, Fla.; J. Walker Robins, Mt. Morris, Ill.; James Sharpe, Council Grove, Kansas.



IF space permitted we would like to reproduce all of the fine letters we have received from and about our 50 year fruit growers. Representing as they do all sections of the country and experience in the growing of all kinds of fruit, they paint a very accurate picture of what fruit growing has been during the last half century. It cannot help but give all of us inspiration to read a few of the outstanding experiences of these men—

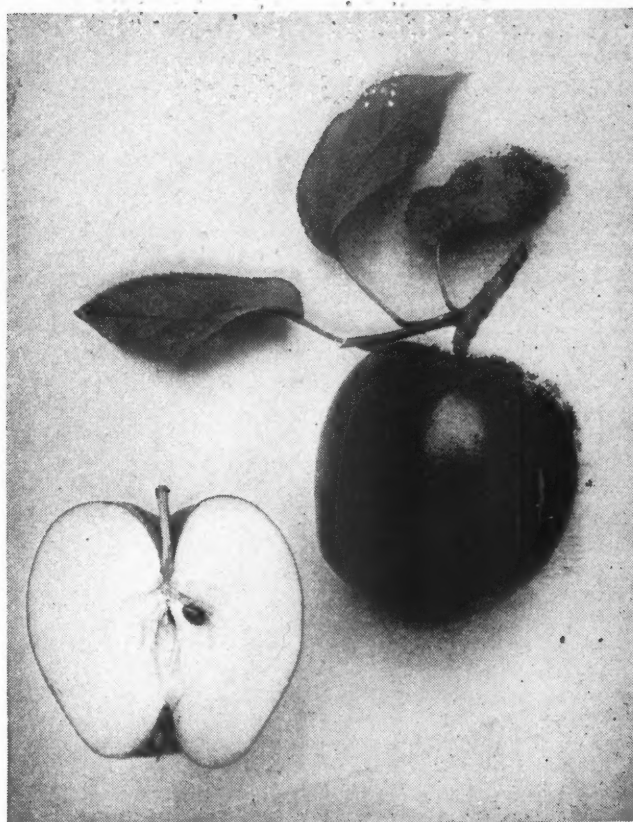
Henry Webber of Maine, for instance, is a 90-year-old Grand Army veteran who has grown apples all his life and as recently as a few years ago has personally supervised the planting of new varieties.—W. F. Ward of Indiana has been a grower of fruit on the same farm for his entire lifetime of 72 years.—John M. Miller of West Virginia has 71 continuous years to his credit in the apple growing business and for years has been holder of the mythical title "Apple King", as the largest owner-operator in eastern U. S.—Another West Virginia grower, D. Gold Miller, now 76, began his fruit experience at the age of seven by helping the budders in his father's nursery and young orchards.—Moving farther west, we find W. S. Perrine of Illinois who came with his parents at the age of four in 1866, to the farm where he now lives, and has been actively engaged in fruit growing ever since.—Up in Michigan, Luther E. Hall is rated at 84 years of age as one of the State's best commercial fruit growers.—And then we jump to Montana to find H. C. B. Colvill, who was born on a 10-acre Cornwall, England, fruit farm surrounded by 20-foot brick walls, but who in 1886 became established in Montana, where he has personally tested some 80 varieties of English apples and pears in what was at one time the largest collection of its kind in the U. S. A.—Out in California let us greet in particular R. B. Holcomb who writes he has been a subscriber to the FRUIT GROWER for 50 years.—And W. P. Lett who began growing citrus fruit near Riverside in 1881 and is still "going strong" at the age of 85 years.

These and many more "patriarchs" of fruit growing deserve our respect and admiration, and we wish them many more productive years in this wonderful profession.

*J. T. Breger*



# NEW TREE FRUITS



Two promising new apples. *Left, Macoun; right, Newfane*

## THEIR ORIGIN AND VALUE

By **GEORGE H. HOWE**  
New York Experiment Station

PROFESSIONAL and amateur pomologists and fruit growers in America have been breeding new fruits for more than a century. Experience has shown that some varieties produce better offspring than others. Many sorts when cross-bred seldom, if ever, produce desirable seedlings. In apples, McIntosh and Delicious have proved to be excellent parents, and it so happens that these types of apples now find greatest favor. Among other tree fruits several equally well-known kinds have proved to be superior parents for cross-breeding.

In New York State there is a society of fruit growers known as the New York State Fruit Testing Co-operative Association, the sole purpose of which is to introduce new varieties of fruits which are recommended for trial by the Experiment Station in that State.

Let us see how and when some of

these varieties which the Association distributes have originated, and what is their value. All which are discussed in this article originated from known crosses made at the State Experiment Station, Geneva, N. Y., unless otherwise indicated.

Take the well-known Cortland apple, for example. The parents are Ben Davis and McIntosh, both well-known sorts, even though the maternal parent has long been condemned because of its poor quality. The seed which produced Cortland was borne in 1898. It germinated in 1899. The seedling grew first in the greenhouse, later in the nursery, and finally in the orchard where it first fruited in 1910. After being tested for five successive seasons, the new seedling was considered worthy of trial. It was given a name and introduced in 1915. In the 15 years since its formal introduction, Cortland has become so well thought of

that it has been widely planted in the East as a McIntosh type to supplement that variety. It took McIntosh more than twice that length of time to become popular.

Who likes early yellow apples? Those who do can find no better sort than Lodi, a cross between Montgomery, a handsome red sour apple, and Yellow Transparent. This seedling, closely resembling its paternal parent, originated in 1911 and fruited first in 1920. After four years' trial it was named and introduced as an improvement over Yellow Transparent—larger, a trifle later in season, and of superior quality.

Who would like a McIntosh apple ready to eat in August? Such an apple is now on the market. It is Early McIntosh, a seedling of Yellow Transparent crossed with McIntosh, which originated in 1909. After five years' trial it was named and intro-

(Continued on page 21)

AMERICAN FRUIT GROWER

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JUNE, 1934

# COVER CROPS

## FOR ORCHARD ECONOMY

By CLARENCE E. BAKER

Purdue Experiment Station

THE most common soil management system utilized in growing horticultural crops is that of cultivation. The possible exception of this is in the case of apple orchards in which sod mulch or straw mulch is used to replace cultivation on rolling or hilly land. With most tree fruits and small fruits, however, cultivation is considered necessary to maintain optimum growth and production. In such cultivated plantings some prac-

tice is necessary to maintain a satisfactory content of organic matter in the soil to promote growth and fruitfulness. Continuous cultivation tends to deplete the organic matter of the soil and with the destruction of the organic matter comes the unfavorable physical condition of the soil resulting from the lack of humus.

The chief value, therefore, of cover crops is to supply humus or organic matter to soils in continuous cultiva-

tion during the growing season, by producing vegetative material which may be turned under and incorporated with the soil. This aids in maintaining a sufficiently high content of organic matter to prevent the serious reduction in fertility and the poor physical condition of the soil following the burning out of the humus.

Another function of a cover crop is to increase the moisture holding capacity of the soil. Soils low in organic matter are as a rule poor in moisture retaining qualities. Darker soils, high in organic matter, generally are more moisture retentive than lighter soils, low in humus. The continuous addition of organic matter in the form of a cover crop worked into the soil year after year does much to promote a good, physical condition of the soil and to maintain its moisture holding capacity.

A third function of a cover crop for horticultural uses is to take up the excess moisture sometimes present in the soil during the latter part of the growing season when it is not needed by the trees or small fruit plants. Frequently, young fruit trees or vigorously growing bearing trees, continue their growth late into the fall past the time when they should be slowing up in growth and ripening their wood. The same is true with brambles. The result of this extended period of growth is that the tree or bush goes into the winter in a rather immature condition and winter killing of the succulent tissue frequently results. A cover crop planted late in the summer under these conditions uses up large amounts of the excess moisture that is available so that the trees or bushes may mature or ripen their wood in a more nearly normal manner.

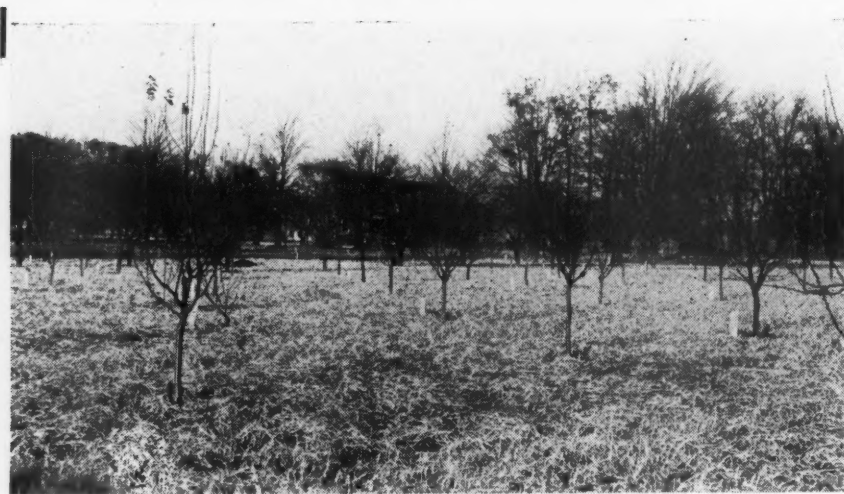
Cover crops, such as rye, that live over winter also protect the soil from excessive washing. This fact alone is sufficient reason for using cover crops under many conditions.

In general cover crops or green

(Continued on page 19)



A young orchard in straw mulch with a cover crop of alfalfa



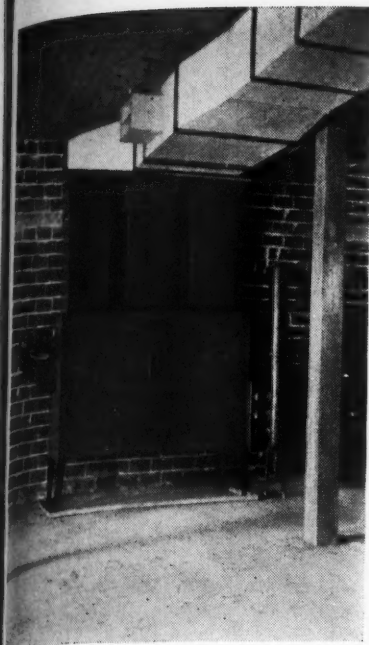
A cover crop of oats after freezing, providing winter protection against soil washing.



# COLD FACTS

## ABOUT PROFITABLE COLD STORAGE

### ON THE FRUIT FARM



Above—Interior of apple storage showing blower and air ducts.

Right—Exterior of modern apple storage house



By DEAN HALLIDAY

AN increasing number of fruit growers now gauge the profit to be realized from their annual apple crops by reading a thermometer. They are the growers who have built cold storage plants on their own fruit farms. Into these storages goes an apple crop that otherwise might be sold in a glutted market at a price leaving little or no profit. At temperatures ranging from 36 to 32 degrees, the apples are held in perfect condition for two, three or six months. As marketing conditions are favorable, and prices attractive, the apples are sold, packed and shipped—at a profit. Take note of the stated sequence—"sold, packed and shipped." The grower who puts his apples in his own storage house is in a position to hold for the price he wants, take orders for delivery, then pack according to the buyers' desires and ship upon specified dates.

This procedure is becoming more or less common in the apple belts of the Central states. In the Far West, the co-operatives serve the grower in similar capacity. In the East, commercial storage facilities absorb the major part of the crops, for redistribution as price and demand dictate.

Cold storage, mechanically created and controlled, is a development of the last 50 years, although Kirk, in 1862, invented the first closed system

of refrigeration in America. His system, however, was of such low capacity that little progress was made until some 20 years later, with the invention by Karl von Linde of the first compression machine utilizing ammonia.

Even today, however, there are but two general methods of storing the commercial apple crop. One is the "common" or air-cooled storage, still used by more than 75 per cent of American growers. The other and newer method, utilizes "cold storage" facilities, where artificial cooling at fixed temperature is made possible by refrigerating machines.

"Common storage," in pits, cellars or buildings especially insulated, depends upon ventilation with relatively cooler outside air. By this method, only varieties of apples that ripen slowly, or that are protected by a thick russet skin, can be kept for any considerable length of time in common storage. Losses are primarily from fungous diseases or wilting. Twenty-five and more years ago, most of the country's apple crop not disposed of shortly after harvest was retained for a varying period by this method, and even at the present time a considerable portion of the commercial apple crop is handled through common storage.

Cold storage, with thermostatic control of temperature, is automatically extending the marketing of

fruits. Consumers can buy fancy apples almost any month in the year. The glutting of markets is being minimized, loss from spoilage decreased, and seasonal prices are more nearly stabilized. As a result, the higher quality apples such as Delicious and McIntosh, have increasingly been produced and the relatively low quality long-keeping varieties, such as the Roxbury and Ben Davis, have decreased in importance.

There are many types of cold storage construction that are practical for the fruit farm. Various systems of mechanical refrigeration also are available at varying price ranges. Investment versus potential savings and profits depends largely upon a grower's production and marketing outlets.

The history of a West Virginia installation may prove a guide for other growers. Here, at a cost of less than \$3,000, a blower-type refrigerating unit was installed in a cold storage with a capacity of 10,000 barrels. Construction of the storage consisted of 12-inch walls, standard refrigeration doors; eight inches of ground cork in the ceilings; 18 inches of cinders under concrete in floors and no insulation at all in the side walls. Dimensions of the house were 72 by 84 feet, 14 feet high, floor to ceilings.

Because of unavoidable delay, the refrigeration did not start operating

(Continued on page 16)

AMERICAN FRUIT GROWER

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JUNE, 1934

# AMERICAN POMOLOGY

*A Page Conducted in the Interests of the  
American Pomological Society*

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A FEW weeks ago the president of the A.P.S. received a letter from one of the older life members of the society, Wm. B. Alwood, of Greenwood, Va., correcting his address. Recognizing the writer as the author of certain valuable U.S.D.A. bulletins on cider and vinegar making and on the composition of fruits, dating back some years ago, correspondence was invited with Mr. Alwood with a view to passing news regarding him along to other members through the medium of your page in the FRUIT GROWER.

Mr. Alwood is president of the Mountain Hollow Orchard Company, Inc., of Greenwood. He expresses his regret at being unable to attend recent meetings of the A.P.S. and promises some personal notes of greater length for an early number of the FRUIT GROWER.

The correspondence with Mr. Alwood led to inquiries among other life members for news and information, with very interesting results.

From Charles W. Garfield, 208 Burton St., S.E., Grand Rapids, Mich., came two fine letters. It seemed that Mr. Alwood claimed the championship for age among the life members, an honor promptly disputed by Mr. Garfield, who continues to be active in civic affairs at 86. Mr. Garfield became secretary of the A.P.S. in 1885 and continued in this office for several years, serving for some time under the late P. J. Berckmans.

"I became attached to the A.P.S. in the late 70's," says Mr. Garfield, "and was on the executive committee some years before I was chosen secretary in 1885. Because of my official connection with the Michigan State Horticultural Society, I became a correspondent of many of the leading pomologists of the country and that correspondence was to me a great joy and a wonderful opportunity for education along the lines I expected to follow in my life work."

"I was younger than Wilder, Brackett, Lyon, Berckmans, the Ellwangers, the Barrys, John J. Thomas, the Warders, father and son, and Mannings, Charles Downing, and many other leading lights in the A.P.S., but they treated me with the utmost courtesy, and when I became secretary, gave me kindly, thoughtful, and general counsel and assistance."

Mr. Garfield writes with zest of a great meeting of the A.P.S. at Grand Rapids in 1885 and speaks regretfully of the fact that only Dr. Bailey and himself survive of those who were responsible for the guidance of the program of that meeting.

William S. Myers, whose present address is The University Club, 1 West 54th St., New York City, promises us "a word or two" on items of historical interest to the A.P.S. membership. Please watch for this in an early issue.

George C. Husmann, 1419 Allison St.

N.W., Washington, D.C., writes with pleasure of having news of his old friend, Prof. Wm. B. Alwood, and humorously remarks that "whether he or I is the oldest living member likely depends on whether



or no he is older than I be." "I have him beat bad in another respect, however," says Mr. Husmann, "namely that, together with Marshall P. Wilder, my father was one of the originators of the society." You will find Mr. Husmann's picture on this page.

W. S. Hart, 1114 Magnolia St., New Smyrna, Fla., and Dr. Wm. A. Taylor, retiring chief of the Bureau of Plant Industry, U.S.D.A., first vice president of the A.P.S., are other life members about whom you may expect news in your next issue.

B. S. PICKETT, Pres.

FRUIT growers, as never before, are advising themselves as to the economic status of their business. Economics and fruit growing go hand in hand. Information relative to variety and production trends throughout the United States is contained in a most excellent bulletin by Chester C. Hampson, Washington Agricultural Experiment Station, Pullman. The bulletin is No. 277, "Trends in the Apple Industry," published February, 1933. The following informative items are selected from the summary of the publication:

"The trend of total apple production in the United States has been downward since 1914; the trend of car-lot shipments has been downward since 1923, and the trend of commercial production has been slightly downward since 1926. Because of the wide annual fluctuations in yield, however, large crops will continue to be produced, with resulting low prices.

"The number of bearing trees in the United States decreased 41 per cent. In the Barrel States, the decrease was 46 per cent,

but in the Box States there was an increase of 10 per cent.

"Yield per tree in the United States has increased 80 per cent during the last 20 years. Between 1927 and 1931 the yield in the Box States averaged approximately 4.2 bushels per tree, and in the Barrel States 1.4 bushels per tree. In Washington the yield averaged about 1.3 bushels per tree between 1907 and 1911. By 1927 to 1931, it had increased to 6.1 bushels per tree, the highest of any state.

"The tendency to concentrate on a few varieties is more pronounced in the Box States than in the Barrel States. The five most important varieties in the Box States represented two-thirds of the total number of trees in 1928, while in the Barrel States the five main varieties accounted for only one-third of the trees. Delicious trees exceeded those of any other variety in the United States, and nearly three-fourths of them were less than 14 years of age. The Barrel States had over two and one-half times as many trees of this variety as the Box States. Although the Box States had more Delicious trees over 14 years of age than the Barrel States they had less than one-fourth as many under 14 years old. During recent years there have been much heavier Delicious plantings in the Barrel States than in the Box States. There were almost as many Winesap as Delicious trees in the United States in 1928 but only about one-half as many under 14 years of age. Recent Winesap plantings have been much heavier in the Barrel States where there were over four times as many trees of this variety under 14 years of age in 1928 as there were in the Box States. Recent Jonathan plantings have been much heavier in the Barrel States which had about 10 times as many trees under 14 years old in 1928 in the Box States. Plantings of Rome Beauty during recent years have been lighter than those of Delicious, Winesap, or Jonathan."

A fine service could be rendered the fruit interests of America if the A.P.S. could sponsor a first class fruit exhibit at the Century of Progress exposition in Chicago this summer and fall. The finances of the organization will not permit an ambitious undertaking without the support of the horticultural organizations, supply concerns, fruit growers and the trade. The officers of A.P.S. invite your suggestions.

The annual report of the A.P.S. was mailed to the members the first of the month. If you have not received your copy, please notify the secretary. This report contains a very authoritative group of articles on spray residue removal, apple scab control, irrigation for orchards in humid climates, bud sports, new fruit list, codling moth control under severe infestations, and a fine article on, "Contributions of the A.P.S. to American Pomology."





## BETTER FOLIAGE— TOP-GRADE FRUIT

**when Codling Moth is  
Controlled with "Black Leaf 40"**

*"Whether we admit it or not, the codling moth is steadily becoming more difficult to control. . . . When we say that \* \* \* (mentioning a widely used stomach poison) 'is the most effective single insecticide for the codling moth, it seems to be something of a confession of a failure.'"* (Page 135, February, 1934 Journal of Economic Entomology).

*"Nicotine Sulphate with Bentonite, nicotine sulphate with bentonite sulphur, a half charge of nicotine annate and oil, and nicotine sulphate with oil, all produced more clean fruit than either the \* \* \* (well known insecticides)."* Page 258, February, 1934 Journal of Economic Entomology).

### "Black Leaf 40" Combinations for Codling Moth

The manufacturers of "Black Leaf 40," through sales promotion and research departments, working with Experiment Stations and individuals, have developed a series of "Black Leaf 40" combination sprays from which a spray schedule can be devised to control codling moth under practically any conditions. These combinations consist of:

#### "BLACK LEAF 40" Added to Lead Arsenate,

or other inorganic stomach poison sprays, at the brood peaks: Lead arsenate and other "stomach poisons" kill the worms *after* they eat. But "Black Leaf 40" kills them *before* they eat; hence it reduces stings, and a few stings make a cull!

#### "BLACK LEAF 40" with Summer Oil:

This combination furnishes a protective contact film on the foliage and fruit which stops codling moth. It is active—kills adult moths, eggs and larvae by contact, fumes and vapors. Also kills aphids, leafhoppers and mites.

#### "BLACK LEAF 40" with Kolofog and S.A.S. Spreader:

This combination of "Black Leaf 40" with a bentonite colloidal sulphur fungicide is very promising as a codling moth control. It holds "Black Leaf 40" on the foliage and fruit in the form of a non-volatile and insoluble nicotine deposit which bars the entrance of newly hatched larvae. Further, this combination controls apple scab.

#### "BLACK LEAF 155"

(Patent Applied For)

This product is a specially processed "Black Leaf 40"-bentonite combination and also contains special fixing and spreading agents. Has the characteristics of the ideal fixed nicotine insecticide. Is usable with colloidal sulphur fungicides. Also with Summer-Oil. Mixes readily with water in the spray tank to form a suspension of very fine particles. It furnishes proper film-coverage of fruit and foliage. "Black Leaf 155" is packed in 5-lb. sacks, 10 per case. The dosage recommended is 5 pounds of "Black Leaf 155" per hundred gallons of water.

These four combinations control codling moth; and the splendid foliage resulting when they are used is outstanding. What about their cost? The crop, when you pick, grade and pack it, is the answer. • Any spray material that is used against codling moth and fails to control the pest or injures and destroys foliage, is expensive, no matter how little it costs. "The question of cost includes not only the cost of material and the expense of applying it, but must be considered from the standpoint of the clean fruit produced by the process." (Page 15, February, 1934 Journal of Economic Entomology).

WRITE FOR DESCRIPTIVE LITERATURE

**TOBACCO BY-PRODUCTS & CHEMICAL CORP.**

INCORPORATED

**LOUISVILLE, KENTUCKY**

Manufacturers of "Black Leaf 40"

**"Black  
Leaf  
40"**

# INDIANA GROWER WINS

## BATTLE AGAINST CODLING MOTH

By KENNETH STALCUP

EVERY operation in the Troth Orchards—thinning, banding, pruning, discing, spraying and picking—is directed toward the extermination of the codling moth. In 1926 nearly 98 per cent of the apples were injured by worms, but last season the entire damage caused by codling moth did not exceed three per cent, according to M. S. Troth, manager of the Troth Orchard Company, Orange County, Indiana. If this apple pest were left undisturbed in the orchard, it would ruin every apple. Under normal conditions the third brood of worms is larger than the second and the second does greater damage than the first. Due to the remarkable plans of war executed by Mr. Troth the first and second broods were completely under control, while the third did very little damage.

When the Troth Orchard Company, composed of R. A. Troth, his brother, H. B., and his son, M. S., in 1925 took over the old Borton Orchard of more than 6,000 trees, including nine commercial varieties, it had become badly infested with codling moth. The trees had been mulched several years prior to this and the orchard had not been in cultivation. It had been considered good practice to grind up the prunings and spread under the trees. Straw, corn-

stalks and other waste plant material were included in the mulch which covered the ground. Upon investigation it was found that the mulch had been serving as an excellent harbor for the moths. In one small section of cornstalk over 30 worms were discovered.

"The trees are thinned three times every year," said Mr. Troth. "We employ 60 men at thinning time and they are instructed to take off all the wormy apples in addition to the regular thinning. These wormy apples are kept separate in a picking bag, and later dumped into cans. Then they are scalded with steam to kill all the worms which otherwise might have been carried to maturity in them. This rigid thinning is probably responsible more than anything else for the remarkable decrease of the codling moth ravages in our orchard."

All the trees are banded every year before the 15th of June. Half of the orchard is banded with chemical bands. These are removed after the first heavy freeze. The other bands are examined every 10 days and the worms are killed. In 1926 as high as 505 worms were found under one band. This year they have averaged less than one-half worm to the band. The bands are examined the last time in November.

All the knotty, broken branches, splits and fractures are pruned away to prevent the larvae from finding convenient shelter and also to aid in making it easier to spray thoroughly beneath the trees. These prunings are burned. During the winter the trees are scraped. For this purpose, sections from a mower sickle are fastened to short handles and are used for scrapers. In the spring before the moths emerge from the pupae, some may be killed by discing under the trees.

The trees have been sprayed as many as nine times with arsenate of lead. Four sprayers are used, and the fruit and foliage are given a heavy coating of the spray material so as to poison the larvae before they are able to eat into the apple. Summer oil and nicotine are used for the last two sprays in order to hold down arsenate of lead residue at picking time.

An electric power plant, having a capacity of 2200 gallons per hour, pumps the water for spraying the 350-acre Troth Orchards. There are 10 huge tanks located at regular intervals throughout the orchard into which the water is pumped. During the spraying season, the sprayers go to the nearest tank to refill. The plant furnishes sufficient water to run eight spray tanks at the same time.

The packing house is covered with muslin about the first of May to prevent the moths, which have wintered there, from escaping to the orchard. If this were not done, the 15-acre strip of orchard near the house would be completely ruined by moth infestation. All of the picking equipment is left within the house until the moths are killed so they will not be carried back to the orchard. From a daily record, it was found to be safe to open the packing house about the middle of July for packing.

"We thought we had the ravages of the codling moth checked in 1928," said the orchard manager, "but the past three years have been exceptionally good for them. The weather

(Continued on page 16)



Simple type of moth trap used in Troth Orchard



## HORTICULTURAL NEWS FROM THE TALL CORN STATE

THE article, "The Fruit Grower and the Price of Gold," and the Editor's comment concerning it in the March issue of AMERICAN FRUIT GROWER was well received by Iowa fruit growers.

Prof. George Warren of Cornell came to Iowa a year ago January to explain to the annual meeting of the Iowa Farm Bureau the need of a new gold dollar. Some thinking was aroused in the Middle West that has produced real progress for the benefit of general agriculture and the fruit grower.

Iowa apple growers do not produce for export, but they realize that our national apple production is on an export basis. They know that good prices in interior United States are much dependent on active trade in export apples.

The 50 to 60-cent dollar along with recognition by the National Administration that apples are an important export item, efficiently produced in United States, is going to be a great help as progress is made by our national government in rebuilding our foreign trade with reciprocal agreements.

ROBERT M. CLARK, Pres.,  
Mitchellville.

## QUAKER STATE NEWS

THE blooming season in Pennsylvania occurred at about the usual time. Very hot weather from May 5 to 7 inclusive brought out most varieties in the State in a much shorter period for any given locality and for the State as a whole.

Frosts at blooming time have been a factor in southern Pennsylvania orchards, probably causing severe local injury to the already light peach crop and to a lesser degree to apples. While earlier prospects indicated a better peach crop than originally supposed, the situation is even more complicated.

The apple tree tent caterpillar is present in large numbers in Pennsylvania this spring. Wild cherries are one of the favored host plants. This insect is no problem in properly sprayed orchards.

### Summer Meeting

No summer trip or meeting will be held this year. These will be instituted again when and if the membership requests them.

### Leave Us Alone Vs. A. A. A.

In spite of fervent entreaties from the northeastern farmers to "leave us alone," Congress feels that something should be done to aid such ungrateful persons. Senator E. D. Smith, Chairman of the Agricultural Committee, has upon request (whose?) introduced a bill which extends the Agricultural Adjustment Act to include, among other things, fruits. This amendment, it is said, would give the Secretary of Agriculture authority to license processors, distributors (including producers and associations of producers who are processors or distributors) and others engaging in the handling of any agricultural commodity or product thereof which in turn would give the Secretary power and authority to establish a quota for apples and thus restrict their sale in accordance with his dictates.

Pennsylvania does not wish to have apples declared an agricultural commodity. The conspicuous and costly failures of

# "I took the old river hill in High!"



*"It's a mean one. Steep. River bridge and culvert at the bottom. Dirt road and two bad turns. I once thought that no car would ever make it. Today I did it easily enough in my New Ford V-8."*

OUT in the country is where you see what a car can do. Hills and rutted, muddy roads are a sure test of performance and dependability.

It is hard, constant service that shows the superior quality of the New Ford V-8. It gives good service on the road because good service has been built into it at the factory.

Here are three important features of the New Ford V-8



that are worth remembering—It is the only car under \$2500 with a V-type, eight-cylinder engine. It is the most economical Ford ever built. It is easy riding on all roads and it gives you more interior room—front and rear—than any other low-price car. Why? Because the V-8 engine gives you eight cylinders in sturdier, chunkier engine space.

The outstanding value of the New Ford V-8 is not a matter of words or claims, but a definite, demonstrable fact. It is something you can see on the road as you "Watch The Fords Go By." You are doubly sure of it when you drive the car yourself and know personally what it can do.

There's nothing like riding in a car to get the true story of performance, safety and comfort.

## NEW FORD V-8

We have several new booklets on the Ford V-8 car and Ford V-8 truck. Also literature describing the Ford Exchange Service (plan whereby you can trade your present Ford Model A or B or V-8 engine and other units such as distributor, shock absorber, carburetor, etc., for factory-reconditioned units at small cost). These booklets are free and we shall be glad to send them to you on request. This coupon is for your convenience.

FORD MOTOR COMPANY, 3677 Schaeffer Road, Detroit, Michigan  
Gentlemen: Please send me the free booklets on the subjects checked below.

New Ford V-8 Car \_\_\_\_\_ New Ford V-8 Truck \_\_\_\_\_ Ford Exchange Service \_\_\_\_\_

Name \_\_\_\_\_

Route \_\_\_\_\_

Post Office \_\_\_\_\_ State \_\_\_\_\_

AMERICAN FRUIT GROWER

Page 11

JUNE, 1934

The American Fruit Grower,  
Cleveland, Ohio

Dear Sirs:

Beginning with the next number will you please change my address from the above to my permanent address, as follows: Mrs. E. J. Kempf, Wading River, N. Y.

I am glad to tell you that although I am a new subscriber I have already obtained far more than my money's

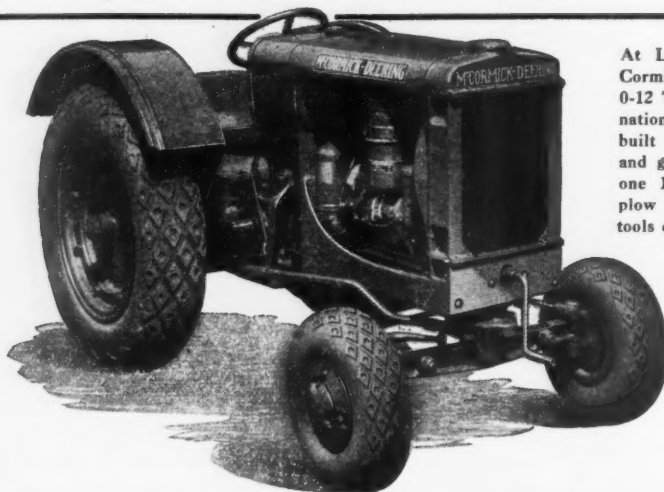
King Grove, Eustis, Florida

March 26, 1934

worth from you, because it was one of your advertisements which led me to investigate and purchase one of the new McCormick-Deering 0-12 tractors which is so very well suited for orange grove work in Florida.

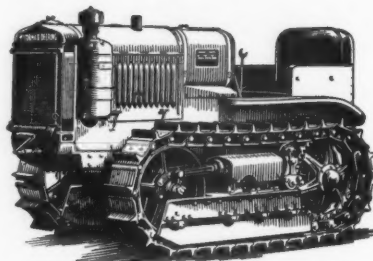
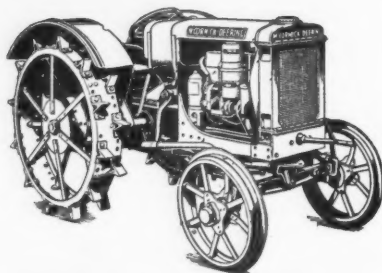
Sincerely yours,  
(signed) Dorothy C. Kempf  
Mrs. E. J. Kempf

## This Is the Efficient Tractor Mrs. Kempf Bought



At Left: The new McCormick-Deering Model 0-12 Tractor, a new International Harvester product built especially for orchard and grove work. It pulls one 16-in. or two 10-in. plow bottoms, and other tools of proportionate size.

Below: The new Model W-12, built for farm work. It is regularly equipped with steel wheels as shown.



For heavy-duty work we suggest the McCormick-Deering TracTracTor as the solution of your power problem.

Mrs. Kempf of Eustis, Florida, was so happy over her purchase of the new McCormick-Deering 0-12 Tractor that she expressed her appreciation to the magazine in which she read the announcement. Another user, Ralph Byer, Upland, California, wrote us direct, saying: "Approximately 1 gallon of fuel per hour is all this little job uses, which I feel is remarkable for the amount of work it accomplishes, such as furrowing out 30 acres in 8 hours. In heavier work it is easy to cover 20 to 25 acres in orchards in the same length of time. . . . I can heartily recommend it in every way."

See this new small tractor at the nearby McCormick-Deering dealer's store, or write to us for complete information.

INTERNATIONAL HARVESTER COMPANY  
OF AMERICA  
(INCORPORATED)

606 S. Michigan Ave. Chicago, Ill.

# McCORMICK-DEERING ORCHARD and FARM TRACTORS

similar efforts with other farm products through the fanatical tinkering of so-called master minds from the city and from the Midwest can do nothing else but make eastern fruit growers cry, "Leave us alone."

### "Swat the Starling" Campaign

The Erie County Horticultural Association members have become "fed up" with starlings, so that they have undertaken a "Swat the Starling" campaign. They hope to enlist the other county associations of fruit growers, as well as other farm organizations in their efforts to reduce the starling menace. Shooting and trapping have been used. Gassing has not worked well. The game commission has not yet allowed poisoning. We are asked to aid this fight in all possible ways.

### Hardiness

Pennsylvania fruit growers are requested to note any striking evidences of hardiness—or the great lack of it—in our Pennsylvania fruits, especially peaches and apples. The Pennsylvania State College is greatly interested in such information. If you have anything to report, even if you are not certain how important it is, please drop at least a card to R. H. Sudds, Department of Horticulture, State College, Pa., giving all the details you can. This will be of value to the industry and to you personally, as all information will be compiled and made public.

R. H. Sudds, Sec'y,  
State College.



### MASSACHUSETTS NOTES

WINTER injury continues to be the main topic with fruit growers in Massachusetts. All seem to agree that "time will tell" how great the injury is. In fact, very likely only "time will tell." More will be known after the June drop than is known now.

Peaches are out of the picture for this year; maybe in some plantings for longer than this year. Pears do not cut much of a figure in Massachusetts, but such as there are show some fruit bud injury, especially if trees were in poor vigor.

McIntosh apples pretty generally show good bloom prospects even on trees that carried a heavy load in 1933. First week in May weather brought buds along so fast that in some orchards prepink spray could not be put on. Pink did not stay pink long enough. A couple of cool nights, May 7-9, delayed the bursting a little, but at this writing, on May 12, many blocks are in full bloom and will receive petal fall spray right away.

Other varieties of apples show very spotty conditions. Some Baldwin blocks will bloom full even where some fruit was borne in 1933. Others that did not blossom in 1933 will not in 1934.

A big group of Middlesex growers made a "Storage Tour" May 12, visiting good examples of all sorts of storage houses, air-cooled, refrigerated and semi-refrigerated.

Fruit meetings at the annual Farm and Home Week of the Massachusetts State College are Tuesday and Wednesday, July 24 and 25, 1934. The usual strong program will be presented.

WM. R. COLE, Sec'y,  
Amherst.

JUNE, 1934

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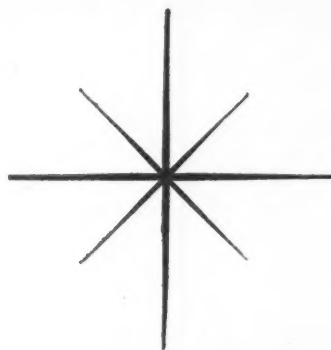
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JUNE, 1934



# STATE HORTICULTURAL NEWS



## Two New Minnesota Fruits Named

FOR many years the Minnesota Fruit Breeding Farm has been at work breeding new fruits for use in this State. The Latham raspberry was the first new variety sent out for trial and is now one of the most important varieties in many commercial raspberry districts of the country.

In 1908 one of our Minnesota boys, Edward C. Parker, was working in Manchuria where he became interested in the native pears. He found one tree (rather scrubby in appearance) that produced pears that appealed to him. He collected some seed and scions for his former professor and sent them back. The scions all died out but only two plants survived the winter and blight. One produced a good quality pear and has just been named the Parker by Professor Alderman, chief of the division of horticulture. It is fully described in the *Minnesota Horticulturist* for February, 1934. Extensive testing has now shown this variety to be hardy enough for general planting in the southern half of Minnesota and worth trying in favorable locations farther north (it has been successfully grown in Duluth). The variety is susceptible to fire blight but in this respect is apparently no worse than the Bartlett pear, so widely grown in other states, or than some varieties of apples in Minnesota.

The second new fruit to be named is the Flame crab apple. This seedling has been under observation for years because of the masses of highly colored fruit in the fall, as well as its blossoms in spring. The fruit is deep red in color and makes excellent jelly because of its color and quality. It has been tried in all parts of the State and seems to be perfectly hardy.

R. S. MACKINTOSH, Sec'y,  
University Farm, St. Paul, Minn.

## Wenatchee Fights Codling Moth

FRUIT growers in the Wenatchee district and especially those in Chelan County are resting easier lately. For some time it looked as if the county agent, State horticultural field inspectors and investigational workers at Wenatchee would be eliminated this season. However, the Chelan County commissioners have declared an emergency and Governor Martin supplied some expense money for the Wenatchee Field Laboratory, so everything is going along about as usual.

First cover sprays for codling moth are being applied about three weeks earlier than usual. While the 1934 season is following very close to the 1926 season, the moth emergence is considerably advanced as indicated by moth trap records. Only an early fall can prevent the occurrence of a third brood of codling moth this season. The majority of growers are using lead

arsenate with either fish oil or soap as spreader in the first cover spray.

Fruit has not set as heavy as was indicated by the bloom and the very favorable weather during the pollination period. Frost injury has not been serious except in a few small areas. The Jonathan variety appears to be the most unfortunate this season as it shows many misshapen apples due to cold weather, and recent rains have spread the mildew on this variety.

A fruit growers' code project is being organized by A. L. Brockway of Hanford. Delegates for a State convention have been selected by the various communities which will meet in the near future.

Fruit growers of the Wenatchee district are having considerable difficulty to secure Production Credit Association loans. The recent raise in the seed loan allowance has helped many small growers. The price of soft fruit this summer will undoubtedly govern late season financing for many growers.

W. A. LUCE.

## Texas Grapefruit Crop Increases

THE lead held so long by Florida in the production of grapefruit is endangered by the Rio Grande Valley area of Texas, with Hidalgo County promising to become the leading grapefruit producing county of the nation. The census figures of 1930 gave Polk County, Florida, the first place, and Hidalgo County, Texas, second place in the number of bearing trees and value of crop. Now the number of young trees in Hidalgo County so far exceeds the number of young trees in Polk County that it is only a matter of time when the counties will change places.

The pecan growers' associations of Texas and Oklahoma were denied money advances on pecans stored in warehouses. Senator Connally, of Texas, was advised that "department officials were unable to consider such a step unless proponents first set up production and marketing agreements."

Governor Hogg, of Texas, was a very much beloved governor. He was very democratic. Although he had more reason to be haughty than most men, he was devoid of that weakness. He was an admirer of trees, especially of the pecan. He requested that when he died, his monument might be a pecan tree planted at his head, and that when it bore, the nuts should be distributed among the plain people of Texas for planting. Later the Texas A. & M. College obtained permission to grow trees from the nuts for free distribution. Dean Kyle, of A. & M., now announces that he has about a score of young trees from the Hogg memorial tree for distribution to school grounds and court house lawns.

E. P. STILES.

AMERICAN FRUIT GROWER

## Florida Citrus Crop Heavy

DR. John Dewey, America's great educator, holds that the one phenomenon typically American is that of constant change. The Florida citrus industry, judged from this standard, must be typically American. It is difficult to say whether every change is one of improvement.

Be that as it may, the efforts of this group of citrus raising people seem to prove the contention that you can't kill the farmer. After years of disappointment and discord, the citrus farmers still wear the customary riding breeches and boots, talk fertilizer, spraying, and even the possibility of better fruit prices and the subsequent lifting of a mortgage.

This year marks the advent of entirely controlled output—another change. The Florida control committee has undertaken the inspection of all fruit packed, and the even greater task of prorating shipments to the various auction markets of the North. Just as Rome was neither built nor burned in a day, so will the job of controlling shipments require more than a day to complete successfully. Having suffered a rather severe body blow in the form of an injunction a few months ago, the control committee now moves with greater caution and more consideration.

Fruit men and fruit organizations seem puzzled as to why shipments of both grapefruit and oranges still run as high as 20 per cent above normal every week. With the estimated short crop this year, shippers would be expected to hold as much fruit as possible for increasing prices. Probably the only explanation is that there is considerably more fruit left than was estimated.

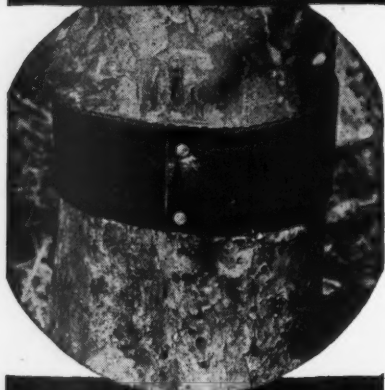
This year's bloom was heavy. This was especially true of grapefruit. Many fruit men say they have never seen a heavier bloom, and it appears that Florida may have its first 40,000,000-box year. That increased prices will prevail is problematical. That increased control will prevail is fairly inevitable.

Shipment of fruit from Florida by boat and truck continues to exceed movement by rail. Growers have made rather substantial savings this year by taking advantage of the lower rates and improved facilities offered by water transportation. Rail connections at New York have been improved, and markets in the East can be reached satisfactorily by this water-rail combination. With all rail rates still holding high, it is safe to say that shipments of fruit and vegetables by water will increase next year as greater facilities are acquired for hauling to ports on the coast and the St. John's River where river boats make connections with coastwise steamers at Jacksonville.

As usual, effort is being made to find a suitable use for third grade and cull fruit,

(Continued on page 15)

**U.S. Authorities say:**  
*Back up your spraying*  
**with TREE BANDS**



**Kill Codling Moth... Cut  
Wormy Fruit Losses 75%**

BETA NAPHTHOL Tree Bands *plus* your regular spray schedule will bring you the cleanest apple crop you ever had. These bands were developed and are recommended by the U.S. Department of Agriculture and State Experiment Stations.

Orchards protected by tree banding show 75% less wormy fruit loss than neighboring orchards where only sprays are used. A single band has killed as many as 1300 worms. Yet this protection costs only a few cents per tree.

American Cyanamid & Chemical Corporation does not make tree bands. But reputable manufacturers in practically every apple section make tree bands impregnated with BETA NAPHTHOL supplied by us.

Get in touch with your State Experiment Station for band size recommended for your locality. And order from your local manufacturer a supply of BETA NAPHTHOL Tree Bands sufficient for your needs.

Write for descriptive leaflet and name of nearest tree band manufacturer.



**American Cyanamid & Chemical Corp.**  
Insecticide Division  
30 Rockefeller Plaza, New York, N. Y.  
224 Dwight Bldg., Kansas City, Mo.  
Azusa, California

**Beta Naphthol**  
for TREE BANDS

## CONTROLLING CODLING MOTH 100%

By JOHN T. BREGGER

THE 1934 "open season" for codling moth is here and the usual spraying and auxiliary programs are being put into action. Because so much of the grower's financial success is based on the outcome of his fight with this and other serious insects, too much emphasis cannot be placed on the methods by which adequate control can be secured.

In all districts except those having a short growing season, the codling moth has become such a serious menace that nothing but the most efficient program will control it. We may well ask what constitutes a program of control which will eliminate all possible loopholes of escape for this "bad boy" of apple and pear pests.

A complete control program should include, first of all, auxiliary methods of control. Banding has already become a standard practice in many fruit districts. Chemical tree bands should be placed on trees prior to the time when the first worms leave the fruit. Any orchard in which the worm percentage ran above five per cent in 1933 should show profitable results from the application of these bands. It has been estimated that banding alone will reduce the codling moth population of an orchard at least 50 per cent.

Spraying still constitutes the main line of defense against codling moth injury. There is almost as much difference, however, between good spraying and poor spraying as between good spraying and no spraying at all. What, then, constitutes a good job of spraying for the codling moth?

The three important elements of good spraying are the use of the right materials, thorough application, and timeliness. Practically all growers know what materials will give good results under their own conditions. There are now many new combinations and substitutes, most of them tested and recommended by the experiment stations, which are worthy of use, at least under average conditions. Inasmuch as there are new developments every year from the standpoint of spray materials, it is very important for growers to obtain the very latest and most authoritative information on them.

First of all, the grower should concentrate on controlling the first brood as near 100 per cent as possible. The greatest number of potential worms may be killed by eliminating the first of the first brood. Whether or not the calyx spray is entirely applied, it is a most important matter to complete the first cover spray prior to the hatching of the first codling moth eggs. Once the codling moth gets ahead in any orchard, it is a continuous losing game for the remainder of the season.

It is worth emphasizing how much the grower has in his favor in these early season spray applications. In the first place, the foliage is fresh and covered with fine hairs, which hold the spray material much better than later on in the season when the leaves become harder and more shiny. Another advantage lies in the fact that most codling moth eggs in this first brood are laid on the foliage, rather than on the fruit. The newly hatched worms, therefore, have to crawl at least several inches over the sprayed foliage before they reach the apple upon which they try to feed, and many are poisoned before they arrive. The third advantage lies in the fact that in early

season temperatures are lower and the worms are much less active than during mid-summer, when a greater part of them simply have to emerge from the egg and go directly into the fruit without any loss in crawling time.

Thorough spraying cannot be emphasized too much. It involves, first of all, the use of sufficient liquid per tree. One cannot completely cover a tree with a restricted amount of liquid, and the attempt to effect economies in this manner usually works out in the opposite direction. It is much better to use too much liquid than too little, though neither one should be necessary. A good job of spraying may eliminate the need for one or more entire applications, which will be a far greater saving financially than the small amount of liquid or materials which can be saved by a scanty application. To do a thorough job of covering a tree with spray, one should have some sort of system for determining when a tree is completely covered. Whether the spraying is done from the ground or from the spray tank, each branch, leaf, and fruit should, if possible, be hit from at least three directions. This implies the use of a definite system in spraying, usually a case of directing a stream of spray forward, into the tree, and then back, from each position taken by the sprayer. Proper pruning, efficient machinery, and a good man behind the spray gun constitute the three most important factors in securing a perfect coverage.

Timeliness of spray application is considered more important every year. From the standpoint of codling moth, it is extremely desirable, particularly during the early part of the year, to have both foliage and fruit fully protected at all times. It is more important, however, to have the greatest coverage at the time when there is the greatest need for it. This information is usually obtained by the use of the moth trap. In intensive fruit sections, not all fruit growers need have these traps in their own orchard, as spray dates may be set from the catches in orchard traps many miles away. The most important use of the trap in each individual orchard is the indication it gives the grower regarding the intensity of his own codling moth problem. In other words, it might tell him when he needs to put on a stronger or better combination in case his problem is more severe than the average; or it may tell him when he can eliminate an entire spray application because he has eliminated the codling moth through efficient work the previous season or in the early part of a given year. Such traps will of course pay their cost of operation many hundred times, if they can prove to the grower that he need not spray when perhaps his neighbor must do so.

### "The EARLY BIRD Tree Band Catches the Worms"

Treated with Beta Naphthol—Kills Codling Moth

Write for Prices

**EDWIN H. HOUSE**

MANUFACTURER

SAUGATUCK

MICHIGAN



## STATE NEWS

(Continued from page 13)

in order to keep the market open to first and second grades only. A short time ago it was thought that canneries would solve the problem. Accordingly, canneries were financed and constructed throughout the State in order to take care of this inferior fruit. While they absorbed part of the surplus, canneries did not entirely serve the purpose for which they were intended. The most recent attempt at a method for using this fruit is in the commercial production of wines. J. A. Cormier, State beverage commissioner, has issued the information that two wineries are already in operation, and a third was licensed recently.

ART STAFFORD.

### Kansas Crop Prospects Good

IN spite of a general deficiency in soil moisture throughout the State, the fruit crops are not suffering. With general rains throughout the eastern two-thirds of the State, and precipitation ranging from one to as much as five inches, a full crop of fruits, whose buds survived the winter, is assured.

The prospect of a 100 per cent cherry crop prevails throughout the State. Strawberries are also reported in a 100 per cent condition. Grapes and raspberries are reported uniformly good.

The Donaphin County orchards have the heaviest set of apples known in years. This condition, together with last week's rain, puts the apple growers of Kansas in the front rank of Kansas agriculture.

The orchard sanitation work conducted as a CWA project resulted in a wonderful clean-up of the orchards, and it should, if followed by banding, materially reduce the injury by the codling moth.

CHAS. A. SCOTT, Sec'y,  
Topeka.

### N. Y. STATE HORT SOCIETY

S. L. Salisbury, Phelps, Pres.

Roy P. McPherson, Leroy, Sec'y

APPLE boxes, an AAA code for sour cherries and what to plant in place of winter killed and injured trees are problems that are causing a lot of worry for New York growers.

The Eastern Apple Box Conference at Springfield failed to solve the box question, so far as Western New York is concerned. Upstate ships mostly by railroad refrigerator cars and boxes approved as to size do not load well in the cars. Last season shippers found they had been sold an assortment of boxes which made bracing necessary in the cars.

The State Horticultural Society has taken the lead in calling a Western New York box conference which is expected to have size, shape and dimensions ironed out by the time this issue is in the hands of members.

At Cleveland, June 5, New York will be represented at an AAA hearing by sour cherry growers and canners. The purpose of a code is to get higher prices for growers and to stabilize the prices for canners. New York particularly objects to the co-operative-packer plan followed in Michigan last year. Growers were advanced one cent a pound on their cherries by processors, with the promise of additional payment later if prices warranted. A flat price of three cents a pound is asked.

So much loss is apparent in the Baldwin

orchards that thought is being given to replacements. The question is will it be the biennial Baldwin again, or some annual variety?

Officers are making plans for the summer meeting at Geneva and will welcome any suggestions.

### Ohio Society Adopts A. F. G.

AT a recent meeting of the executive committee in Columbus it was voted to give all annual and life members, who are not now subscribers to AMERICAN FRUIT GROWER, a one-year's subscription beginning with their "Fifty-Year Anniversary" Number, May, 1934. While many of our

members have already subscribed to AMERICAN FRUIT GROWER, the executive committee felt that the present policies of the paper were so commendable, that it brings, monthly, vital news and information of interest, not only to Ohio fruit growers, but to fruit growers everywhere, and that a valuable service could be extended to our membership by arranging to have all of our members subscribers to AMERICAN FRUIT GROWER. We welcome AMERICAN FRUIT GROWER to Ohio and hope that the most cordial spirit and co-operation can be extended between the Ohio fruit growers and AMERICAN FRUIT GROWER for the mutual advancement of both.

F. H. BEACH, Sec'y.,  
Columbus.

## Make Every Spray Application COUNT!

Particularly the first brood cover sprays immediately following the calyx application. You'll do well to use



*"Astringent"*  
**ARSENATE of LEAD**

and take advantage of its 15% to 30% greater effectiveness. It takes the place of standard lead arsenate in your pome fruit spray program without any change in schedule or dosage. It is chemically compatible with standard fungicides. It has all the advantages commonly recognized in the standard Orchard Brand product with a plus value in efficiency.

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Atlanta, Baltimore, Boston, Buffalo, Charlotte, Chicago, Cleveland,  
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Breakfast from 30c

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Dinner from 75c

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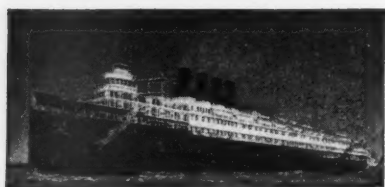
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These cruises, seven days in duration, begin the second week in July and continue through the first week in September.

One low fare includes all expenses—transportation, state-room, meals, all entertainment on shipboard, and sight-seeing trip at Mackinac Island.

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7 Days, All Expenses

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6 DAYS to and from

Cleveland, all expenses

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CLEVELAND & BUFFALO TRANSIT CO.

East 9th St. Pier

Cleveland, Ohio

Apple shipment records of Seattle were smashed early this spring with a total movement of 5,358,000 boxes through this waterborne gateway for the current 1933-34 season. A new mark of 6,000,000 is expected to be rung up as a climax to this unprecedented season.

Page 16

## PROFITABLE COLD STORAGE

(Continued from page 7)

until the storage had 7,500 barrels in it, at a temperature of 66 degrees. In two and one-half days of running, the refrigeration unit had the temperature down to 33 degrees. The house was then filled to its capacity of 10,000 barrels. By thermostatic control, the refrigerating unit automatically holds the temperature between 32 and 36 degrees. Under these conditions the West Virginia grower held his 10,000 barrels in storage from October until January 1, when they were sold at a good profit.

A year's cost of these storage facilities, including the electric current for refrigeration, current for packing room lights and power for motors of the graders, plus a year's interest on his investment in the refrigerating unit, was \$3.67 per barrel, or \$366.49 for the 10,000 barrels.

During the same period this grower, for lack of capacity at his own orchards, sent 3,800 barrels to commercial cold storage, at a cost of 45 cents per barrel, or a total of \$1,710. He points out that had he been compelled to store the 10,000 barrels in commercial storage at 45 cents, he would have paid \$4,500 instead of his own cost of \$366.49. Thus he saved

\$4,133.51—and yet was enabled to hold his apples until he could sell at the profit price he wanted.

Cold storage at the orchard also simplifies the packaging problem. It requires a prophetic endowment for a grower to tell three months ahead of selling time what package the consumer will want the fruit enclosed in when he calls it out of storage. Keeping the fruit close to the orchard, and not packed until sold from the grower's own storage, gives time to suit the container to the consumer's choice.

Many factors must be considered before undertaking to provide cold storage at the orchard, but nevertheless more and more growers are finding it good business to make the investment. The rapid expansion of cold storage facilities, shown by figures of the U. S. Bureau of Agricultural Economics, indicates the total refrigerated space in the United States, commercial as well as farm types, increased 30.3 per cent in the seven years between October 1, 1922, and October 1, 1929. In 1922 there were 559,138,225 cubic feet of refrigerated space, which increased to 728,594,833 cubic feet by 1929.

## Indiana Grower Conquers Codling Moth

(Continued from page 10)

has been hot and dry. The previous summer's drought, combined with the mild winter, gave the moths a vigorous start last spring. The trees were not sprayed as many times during the summer of 1930 as usual, because the sprayers were used for watering the orchard."

There are 85 bait traps in the 200-acre orchard, 60 of which are run by Purdue University and 25 by Mr. Troth. The solution used in these quart jars is composed of 10 per cent black strap molasses, 90 per cent water, and one cubic centimeter of citral. These traps are run daily, and an accurate record is kept so that it is possible to tell the rate of hatching in the orchard. Last year the first brood lasted from the 16th of May to the 9th of July. The lowest daily number recorded in the bait traps was three and the highest 257.

The second brood overlapped the first and reached a peak of 51 on the 14th of July. There are also three cages in the orchard where several hundred moths are placed to note their hatching. These are checked

with the bait jars. The sex of the moths are marked, as an excess of males indicates the end of a brood.

The codling moth does not act the same any two years, but, through experimentation, it has been found that the ratio of damage done to the different varieties of apples remains fairly constant. The larvae seem to prefer the Delicious to any other kind. In 1930, 35 per cent of the Delicious were damaged, including worms and stings; Rome Beauty, 25 per cent; Dr. Mathews, 18 per cent; Winesap, 15 per cent; Jonathan, 12 per cent; Grimes Golden, 10 per cent; and Turley, seven per cent.

The Cortland apple is attracting a great deal of attention as a superior baking variety. In certain cities such as Cleveland, it is gaining favor rapidly and is in great demand by leading hotels and restaurants, rapidly replacing the Rome Beauty for this purpose. When baked, the Cortland holds its shape well but at the same time becomes very tender and tasty.

AMERICAN FRUIT GROWER

JUNE, 1934

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JUNE, 1934



## EASTERN APPLE COUNCIL

THE third annual meeting of the Eastern Apple Growers Council was held recently in Washington, D. C., with the following states represented: Connecticut, Delaware, Maryland, New Jersey, New York, Ohio, Pennsylvania, Virginia and West Virginia. Iowa was represented by proxy.

Senator Harry F. Byrd, president, presiding at the morning session, delivered a most interesting and informative address on legislative matters now in progress in Washington affecting the apple industry in particular and agriculture in general. Senator Byrd discussed the export situation, proposed changes in tariff and its probable effect on foreign apple trade, spray residue legislation, and emphasized the fact that we must not increase the cost of production of those commodities that we produce in exportable quantity.

There was a lengthy discussion of proposed changes in apple grade regulations, it being apparent that no unanimity of thought on this question was possible at this meeting. The meeting voted unanimously to endorse the effort of Senator Byrd and others to secure reciprocal trade agreements that would include apples.

The following officers were elected for the ensuing year: Senator Harry F. Byrd, of Virginia, president; J. L. Salisbury, New York, vice-president; Byron T. Roberts, New Jersey, second vice-president; Robert A. Simpson, Indiana, third vice-president; and W. S. Campfield, Virginia, secretary and treasurer.

The committee appointed to study Senate Bill S3270 proposing standardized baskets and basket material, made its report. With reference to the Secretary of Agriculture having authority to change the size of container and the number of types of containers, it was thought unwise to specify these in the law, as types of containers change from time to time in accordance with the demands of the trade.

R. R. Pailthorpe, of the Bureau of Agricultural Economics, discussed at some length the unclassified pack of apples and explained that the New York specifications for culls, which cannot be shipped in closed packages above a certain percentage, would probably take care of the situation presented by Virginia and one or two other states.

W. S. CAMPFIELD, Sec'y.,  
Staunton, Va.

## U. S. Frozen Pack Work Continues

Continuance of the valuable work of the Frozen Pack Laboratory in Seattle has been decided upon by the U. S. D. A., and experimentation and research into the "frozen packing" of various tree fruits and berries will go forward under the direction of H. C. Diehl and J. A. Berry in charge of the laboratory for the past five years. Due to economy measures at Washington, there had been rumors that the laboratory would be discontinued, but protests from fruit growers and packers have prevailed, since discontinuance would have been a blow to advancement of the fruit industry of the Pacific Northwest. The Pacific Northwest is now freezing about 2,000,000 pounds of berries a year, the U. S. D. A. reveals. The workers are endeavoring to perfect preservation of fruits in small containers, including the bright red strawberries, dark blackberries and blueberries, and certain tree fruits as plums,

# "Scab, Codling Moth Brooks' Fruit Spot"

*"The ORTHO Summer Spray Program gets  
'em all at the same time!"*

● USE these ORTHO materials for a real Summer Clean-up of most every Insect and Fungous Pest and combination of Pests that may infest your trees. Get them *all at the same time* and save time, trouble, fruit, and money.

**ORTHOL-K** and Lead Arsenate with ORTHO Spreader for Codling Moth. ORTHOL-K kills the eggs, reduces "stings," and adds greatly to the effective cover of the Lead Arsenate. Combined with Nicotine Sulphate it has proven highly satisfactory as a substitute for Lead Arsenate. It also cleans up Red Mite, Scale, Leaf Hoppers, Case Bearers, etc., at the same time.

**COPOSIL** is an improved colloidal copper fungicide, rated as safer and more effective than Bordeaux for control of Scab, Brooks' Fruit Spot, Blotch, and similar diseases.



Also mixes readily with the ORTHOL-K and Lead Arsenate or Nicotine Sulphate combination.

**ORTHO SPREADER...** a remarkable film-builder for use with Arsenical, Sulphur-Arsenical, Lime-Sulphur, Bordeaux and other Copper Sprays, and the Lead-Arsenate-Oil combination. Gives more uniform coverage and aids removal of residue.

Write for ORTHO Summer Spray Bulletin and full information

CALIFORNIA SPRAY-CHEMICAL CORP.  
214-B West 14th Street, New York  
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# ORTHOL-K

AND LEAD ARSENATE  
with ORTHO SPREADER



(and 'Coposil' for Scab and Brooks' Fruit Spot)

apricots, Italian prunes and peaches. Fifty different products have been successfully preserved for a year or more at the Seattle laboratory.

## Spray Authorities Aid Growers

Drafted into the federal service, Prof. R. H. Robinson, agricultural chemist in the Experiment Station at Oregon State College, Corvallis, will assist in the development of new sprays, spray chemicals and solutions for the apple industry. Numerous spraying and technical problems are expected to be overcome, and the Bureau of Entomology of the U. S. D. A. has been given \$60,000 and the services of several leading spray authorities to develop new solutions for pest control.

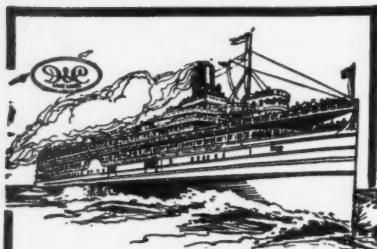
*When your spray gun balks,  
don't damn it; rather send for  
a Hamilton Gun, saving  
your temper and your fruit.*  
*Will Hamilton*

W. L. HAMILTON & CO.  
BANGOR, MICHIGAN  
Six Models. Better guns for less money.

AMERICAN FRUIT GROWER

Page 17

JUNE, 1934



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STR. EASTERN STATES  
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Sailing from Cleveland every Monday and Thursday, at 8 p.m. E.S.T., beginning Monday, July 2nd.

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**\$60<sup>00</sup>** Seven-Day, All-Expense cruise Cleveland to Chicago, via Buffalo, and return; 5½ hours at Mackinac Island; 1 day in Buffalo; 1½ days in Chicago. Return by Put-In-Bay Islands.

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Music, Dancing, Deck Games, Bridge, and Afternoon Teas. Social Hostess in attendance.

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Lv. 11:30 p.m., Ar. 6:45 a.m.

For Tickets and Reservations apply to D&C Terminal, E. 9th St. Pier, Phone Main 5704; City Ticket Office, E. 9th and Chester, Cleveland, Ohio, and any authorized R. R. or Travel Agency anywhere.

**DETROIT & CLEVELAND  
NAVIGATION COMPANY**

"I've lived a long time and had considerable experience," mused old Uncle Bill Jones, "but never yet have I seen a woman who wasn't ready to admit that she raised her children better than her neighbors did, had mighty good taste in dress, and a right high instep."

Page 18

# MAKING MEETINGS SUCCESSFUL

By MARY LEE ADAMS

ARE your Club Meetings successful? Women in hundreds of rural communities have organized clubs of one sort or another. These, as a rule, exercise a very wholesome influence. Numbers of such clubs are now going forward under new leaders.

The incoming president will be on her mettle to make some advance over her predecessors, to carry the organization nearer the goal which all have in mind. Regular meetings of the members are of great importance. To insure a full attendance, everyone must be able to look forward to a pleasant occasion, to a lively interest. If this is accomplished, the members will be keyed up to the point of giving willing service, and a capable president will find little difficulty in obtaining support for all her aims.

Attention has been called to some frequently neglected considerations which may make or mar any gathering. These touch on the general attractiveness of the place of meeting. Appearance is important but by no means all that is required. The place of meeting must be comfortable if it is to exercise an appeal that will make the members unwilling to miss a single occasion.

If the air is too cold, the audience seldom warms to the speaker. If too hot, a subtle somnolence steals over them. If unventilated, a sort of malaise possesses and makes them restless. The meeting place, like a popular specialist, must care for the "eye, ear, nose and throat." Only under extreme excitement is the ordinary human being indifferent to these comforts.

Having achieved comfort, there remains the major task of assuring that the session shall be packed with interest. When a meeting is intentionally devoted to one especial purpose, it may be interesting without much variety, otherwise it is well nigh impossible to preserve interest without variety. This is often difficult to provide but is one of the essentials to success.

And here, may we timidly suggest another point? "Was the meeting you and Alice went so far to attend, as interesting as you expected," I inquired of a friend. "Yes indeed," was the heavy response. "It was very interesting. A trifle long. The

AMERICAN FRUIT GROWER

women repeated themselves and each other a good deal. But of course, that's always to be expected."

Why—"of course"? People repeat themselves largely because they don't know how to stop. Even a brilliant and fast-moving opening loses its force if dragged on to a lagging close. Surely there must be some painless device by which too prolonged a flow of oratory might be turned off. All speakers should understand clearly that no one person may usurp too much time. Yes, Madame President, I was just about to close anyway.

## COMPENSATIONS

SOMETIMES, when the malady known euphoniously as "spring-fever" or, less elegantly, as the "itching foot," threatens to take some of the sunlight out of my surroundings because, like most of us, I cannot obey the impulse to go "away and away to the end of the day" to new scenes, new manners and customs, foreign lands, I take comfort in the remembered words of a dear and wise old man who heard me sigh because fate held me within narrow bounds.

"There was a time," he said, "when I envied my rich friends who could go dashing about the world at will. Most young people are like that, but I've grown to count it a blessing that all my life I've been pretty well tied down to this little place."

"Youth is the time when it's easiest to strike roots, and my interests and affections have taken a firm hold here. I've grown into my place and I'd be missed out of it. If I were transplanted now I doubt if I'd survive it."

"Look at Jim Barrett and his wife, both of them born not far from here. They never settled down. They had money and were always on the go, 'broadening their minds and getting experience.' Fine people, too, but they never stopped long enough to take root."

"They're tired of all that now and have come back to the old home for good and all. But they're disappointed. They don't count for a thing in the real life of the place, and they feel it. Jim says so. They're honestly trying to identify themselves with the community, but it takes time. They're suffering from growing pains in their later years and it hurts."

JUNE, 1934



## COVER CROPS FOR ORCHARD ECONOMY

(Continued from page 6)

manure crops may be divided into two general classes—leguminous and non-leguminous. Leguminous crops when properly inoculated, have the additional advantage over the non-leguminous forms of increasing the total nitrogen supply of the soil, as well as of increasing the amount of organic matter. Both classes may be further divided into those which die in the fall and those which live over winter.

A crop that does not live over winter may be plowed under or disced into the soil at any time that the ground is in a favorable condition. To obtain the maximum amount of organic matter the crop should be turned under before or shortly after the killing frost. Crops that live over winter may be permitted to make some additional growth in the spring provided growth is not permitted to continue long enough that the plant becomes "woody." Crops plowed under when young and succulent become better incorporated with the soil because of the rapidity with which their decomposition is accomplished.

### Soil Bacteria Aid in Decomposition

When a vegetative material is plowed into the soil it begins to decompose through the action of various soil bacteria which convert the organic material into a form in which it may be taken up by other plants. Among these organisms are the various classes of nitrifying bacteria which convert the vegetative matter into ammonia and nitrites and finally into nitrates, in which form it may be utilized by trees and other plants. These bacteria carry on their work only at relatively warm temperatures and under moist conditions. If the decomposition is to take place as rapidly as possible it is essential that the vegetation should be green and succulent. Some crops as rye tend to become tough and woody as they become mature and decay slowly when turned under in this condition. As the season advances the moisture supply in the soil often diminishes, tending to delay the decomposition of a crop turned under late. At this time of the season the trees or bushes likely are in need of much of the available water in the soil. It is essential, therefore, that overwintering crops be turned under early in the season.

(Continued on page 22)



## No one can make a good drink out of poor Coffee

You can get no finer coffee flavor in the cup than is in the coffee you buy. But there is one coffee you can always depend upon to be "always" delicious, "always" rich and mel-

low and sparklingly fresh. That coffee is Beech-Nut. For Beech-Nut is finest mountain-grown coffee, scientifically blended and roasted — then protected by modern high-vacuum tins.

## Beech-Nut Coffee

Rare Flavor from Tropic Heights

### Seasonable Fashions



No. 931—Comfortable Health Togs. Designed for sizes 1, 2, 4 and 6 years. Size 4 requires 1 yard of 35-inch material with 4½ yards of binding for the sun-suit; and 1½ yards of 39-inch material with 6¼ yards of binding for the rompers.

No. 308—Cool and Lovely. Designed for sizes 14, 16, 18 years, 36, 38, and 40 inches bust. Size 16 requires 3 yards of 39-inch material with ¼ yard of 35-inch contrasting.

No. 975—Delightfully Slenderizing. Designed for sizes 36, 38, 40, 42, 44, 46 and 48 inches bust. Size 36 requires 2½ yards of 39-inch

material with 1¾ yards of 39-inch contrasting.

No. 831—Adorable Little Frock. Designed for sizes 1, 2, 3 and 4 years. Size 4 requires 1¾ yards of 35-inch material.

No. 329—Casual Daytime Dress. Designed for sizes 14, 16, 18 years, 36, 38 and 40 inches bust. Size 16 requires 3½ yards of 39-inch material with ¼ yard of 35-inch contrasting.

No. 976—Indispensable for Summer. Designed for sizes 36, 38, 40, 42, 44 and 46 inches bust. Size 36 requires 3¾ yards of 39-inch material.

Patterns may be secured by mail, postage prepaid, at 15 cents each from FASHION DEPARTMENT, AMERICAN FRUIT GROWER, 1370 Ontario St., Cleveland, Ohio. Be sure to state size required. Enclose 10 cents additional for Fashion Magazine (15 cents where no pattern is ordered).

AMERICAN FRUIT GROWER

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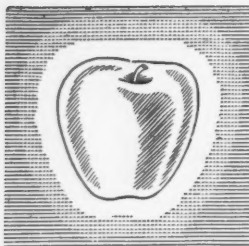
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JUNE, 1934



## The SALES APPEAL OF WRAPS

Pioneer Myracol Wraps offer a practical way to protect apples, tomatoes, etc., and to add a quality appeal that brings better prices.

Oiled—copper treated—all colors, plain or printed. And, for extra fancy packs, transparent wraps are recommended.

Other sales-building packing specialties for many different kinds of fruit and vegetables include: Oiled Shreds . . . Basket Caps, Liners, and Fringes. Also a complete line of plain or printed paperboard cartons and shipping cases.

Write today for sample and name of nearest dealer.

Packing Materials Division  
PIONEER PAPER STOCK COMPANY, 462 W Ohio St., Chicago

**Myracol**  
PACKING PRODUCTS  
FOR FRUIT AND VEGETABLES

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*In the Heart of Things*



**H**ERE one may live graciously, yet inexpensively . . . where modern luxuries combine with friendly hospitality to assure an enjoyable visit . . . You may properly expect precise, thoughtful service and a cuisine that is one of the enduring traditions of this world-famous hotel.

Claude H. Bennett  
General Manager

**BELLEVUE  
STRATFORD**

**\$3 for one**

A single room with bath at The Astor—at as low as \$3 today—gives—leading hotel service; finest New York location; smarter hotel prestige; larger, airier rooms; comfort table furnishings; the leading hotel value.

**The ASTOR**  
entrance TIMES SQUARE  
That's New York!

SOME GROWERS SAY—  
**AERO CYANAMID**  
IMPROVES  
COLOR OF  
FRUIT . . .

# "EVERY GROWER'S" PAGE

By T. J. TALBERT

## Importance of Spraying

**SPRAYING** is the most important orchard practice. It is the cheapest insurance against failure. The cost of spraying is so small when compared with the returns it will bring that the orchardist can well afford to give the practice major consideration. The fruit grower who fails to spray thoroughly, properly, and at the right time will not succeed, even though he may use the best known cultural practices, pruning methods and fertilization systems.

The various sprays are applied to fruit trees and plants to prevent damage from the insects and fungous diseases injurious to orchards, vineyards and small fruit plantations. For practical purposes all the fungous diseases and insect pests may be grouped under the following three heads: (1) fungous diseases, (2) biting and chewing insects, and (3) sucking insects.

The fungous diseases are controlled by spraying the fruit trees and fruit plants with such mixtures as lime-sulphur and Bordeaux. Some of the most common diseases of fruits requiring sprays for their control are: apple blotch, peach leaf curl, black rot of grapes, and brown rot of the stone fruits.

The chewing and biting insects like the codling moth, plum curculio, and canker worm, actually eat portions of the fruits, stems, and leaves. These insects and all others that feed in this manner may usually be destroyed by spraying the plants upon which they are feeding with an arsenical or stomach poison. Arsenate of lead is the standard arsenical used. In spraying, the purpose is to cover completely the surface of the fruit and foliage with a thin film of the poison. The sprays should be repeated often enough to keep all new growth thoroughly covered. In so doing the insects are forced to feed upon poisoned food which kills them.

A contact spray is required for the control of sucking insects such as aphids. Examples of contact sprays are summer oil emulsions and nicotine sulphate. They must be applied in such a manner as to come in contact with the body of the insect. The secret of success, therefore, is thoroughness. Every insect must be hit and wet with the spray; otherwise it will not be destroyed.

AMERICAN FRUIT GROWER

## Amateur Tree Surgery

*I would like to learn something about tree surgery. Could you tell me:*

- (a) How to clean the cavity?*
- (b) How to fill and what filler to use? Some orchardists have been using cement, but there are more improved materials on the market.*
- (c) How can we compound a cold, elastic and lasting tree paint as dressing for pruning wounds and cavities?*
- (d) Do you know of some firms manufacturing special tools, drills, etc., for tree surgery?—E. H. M., California.*

**A**LL unsound wood should be removed through the use of a chisel, tree scraper or some other implement useful for the purpose. The surface is sometimes charred by means of a torch or treated with a copper sulphate solution (one pound dissolved in one gallon of water), or a coat of asphalt paint may be applied in order to prevent decay.

After all, cement is likely to prove the most valuable in filling tree cavities, where it seems necessary to fill them. When cavities are not filled, it is usually advisable to clean them out, disinfect the surfaces as suggested and provide good drainage at the lowest point.

Nails may be driven into the surface to assist in bonding the cement. The mixture to use is one part cement to three parts of sand. It is important that the surface be left so that the growth of the wood and bark may cover it. The surface is finally smoothed and when dry should be covered with some good waterproofing.

Perhaps as good a disinfectant as can be procured is the copper sulphate solution; when this has dried the wounds may be covered with green paint. Wounds and cavities should be given timely attention to keep them properly covered with paint and to make repairs when needed.

Unless one is to make a specialty of tree surgery, special tools are not absolutely necessary, as very good work may be done with ordinary tools that may be procured from carpenters or blacksmiths.

## Control of Woolly Aphis

*There is a sort of root mould on some of my young fruit trees. Is this causing much damage and what can I do about it?—R. H. W., Alabama.*

**I**N ALL probability the root mould which you mention consists of the insect known as the "woolly aphis." This tiny root louse attacks the roots of not only apple trees but many other kinds of trees. The aphis secretes a waxy or down covering over their bodies and when they thickly cover the roots of apple trees, for example, their appearance is like that of a mould or fungous growth.

All factors considered, the best remedy known for an attack of woolly aphis generally consists of stimulating the trees, through better cultivation, fertilization, pruning and spraying, into a stronger vegetative growth. When this is done, the trees are usually able to take care of themselves and ward off or repel to some extent the attack of the woolly aphis.



## NEW TREE FRUITS

(Continued from page 5)

duced in 1923. Its name indicates what it is. Early McIntosh looks and tastes like McIntosh. Another early apple of the Early McIntosh season is Melba which originated at Ottawa, Canada, in 1898, as an open-pollinated seedling of McIntosh raised by the late W. T. Macoun. Melba is delicate both in color and flavor. For the home and roadside it is highly desirable. It ripens a trifle earlier than Early McIntosh, and is more tender and its season shorter.

As the season advances to the time of Wealthy, a sister of Early McIntosh, which originated the same year, has been named Milton, and is attracting wide attention. It ripens with or before Wealthy, and is such a beautiful pinkish red in color and so tasty that all patrons of roadside stands and local markets ask for more.

Getting back now into the ripening season of McIntosh, another new McIntosh seedling is out for trial. It is Kendall, and it is one of the handsomest dark red apples ever produced. Kendall is a seedling of Zussoff, a handsome dark red sour Russian apple, pollinated by McIntosh. It originated in 1912, and was officially introduced in 1932, after having fruited for several years. This new apple prolongs the season of McIntosh apples. Many people who have tried it pronounce it equal or better in flavor than McIntosh or its relative, Cortland.

Just as Early McIntosh advances the season for the McIntosh type of apples, Macoun, another seedling of McIntosh, produces a late crop of these finely flavored aromatic fruits. The other parent of Macoun is Jersey Black, a late-keeping highly colored apple. The seed was planted in 1909, and the tree went into the orchard in 1912, bearing its first crop in 1918. After five years' trial, the seedling was named and introduced in 1923. The fruits of Macoun are quite similar to those of McIntosh, and were it not for the season of maturity, the two varieties might sometimes be confused. Macoun keeps longer than Cortland.

Mutations or bud sports of apples now are common. It is said that 30 well-known varieties of apples have given rise to 225 bud sports in 10 years. The three red sports which the New York Fruit Testing Asso-

ciation offers for sale are Red Duchess, Red Gravenstein, and Red Spy.

Of the two red sports of Duchess, which have been tried at Geneva, N. Y., the Red Duchess, discovered in the orchard of J. P. Van Buren, Stockport, N. Y., is the better. In 1914, a branch, 10 or 12 years old, was noticed in the top of a 14-year-old Duchess tree which bore Duchess apples well covered with solid red mingled with conspicuous dots and entirely lacking the usual Duchess striping. After being fruited for several years at the New York Experiment Station, the new sport was recommended for planting in place of the regular Duchess.

"Red Gravenstein" originated in San Juan Co., Washington, about 1907. Since that time other red strains of Gravenstein have appeared in this country and Canada. "Red Spy" was found in the orchard of C. E. Green, Victor, N. Y. Mr. Green sent scions to the New York Experiment Station in 1910. The fruit differs from Northern Spy only in the solid red color. Several other red sports of Northern Spy have also been found.

Probably the Delicious apple has produced more red strains throughout this and other countries than any other sort. The well-advertised "Starking" and "Richared" are typical examples of these mutations. McIntosh, Jonathan, Rome, Stayman Winesap, and Twenty Ounce likewise have produced red sports of which one or more of each are on the market today.

Among new varieties of pears, Gorham is perhaps the best and most outstanding. Gorham is a seedling of the well-known Bartlett and Josephine de Malines, an old Belgian pear. It originated in 1910, and bore its first crop 10 years later. After three years' trial it was offered to the fruit growers of America. Gorham resembles Bartlett in all characters. It ripens three weeks later and keeps in storage from six weeks to two months longer. It is every bit as good to eat and canners in the East and West find it to their liking. The trees, while perhaps not wholly blight resistant, are remarkably free from this dreaded disease which takes such a toll of Bartlett trees.

A new late-season pear, ripening in December, is the Ovid, which has considerable promise because of its late-keeping qualities. This is a cross between Bartlett and Dorset which originated in 1912. It was introduced in 1931. Ovid has characters of both parents, and is as good in quality as either when properly matured.

(To be concluded in July issue)

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## CHAS. W. PRICE PASSES



The departure of a friend is always a deep sorrow and the sudden passing in New York of Charles W. Price, former Chairman of AMERICAN FRUIT GROWER, is a great loss to his associates and many friends. Aristocratic in

bearing, gracious in manner, C. W. Price was one of those rare individuals whose charming personality made friends with everyone with whom he came in contact. Although a victim of ill health for many years, he was nevertheless cheerful and his courageous heart won the lasting respect and affection of his associates.

E. G. K. MEISTER.

## COVER CROPS FOR ORCHARD ECONOMY

(Continued from page 19)

### Satisfactory Cover Crops

Many crops are satisfactory as green manures or cover crops. Experiments with orchard cover crops conducted by the Purdue University Agricultural Experiment Station for many years have been summarized as follows: "The most satisfactory orchard cover crop is that one which, in the locality under consideration, will produce the greatest growth of vegetation, relatively rich in nitrogen." This statement indicates that what might be the most satisfactory cover crop in one locality might not succeed in all parts of the state. Some good cover crops that have a wide adaptation may be listed as follows:

### NON-LEGUMINOUS:

**Rye**—This crop has proved very satisfactory under Indiana conditions when properly managed. It is adapted to almost any type of soil and seldom fails to produce a good stand. It produces a good cover that remains on the ground over winter and yields a large amount of organic material for returning to the soil in the spring. It should be plowed under while young and succulent for best results.

**Millet**—Another good crop especially for the young orchard. It grows rapidly and in this latitude makes a good growth before it is killed by the frost. Millet is not so well suited to the old orchard as it does not grow well in shade. Although it does not live over winter it usually forms a mat of dry stems over the surface of the ground.

**Oats**—In cool moist climates oats often make a very desirable cover crop.

**Buckwheat**—This crop is very similar to millet in its behavior and adaptability as an orchard cover crop. It does not form as large an amount of dry matter, however, nor does it afford so good a winter cover.

### LEGUMINOUS:

**Soybeans and Cowpeas**—In warm regions these crops sometimes make very satisfactory cover crops. In the more northerly localities, however, they often fail to produce a satisfactory ground cover before frost, when planted at the time cover crops are generally sown.

**Red Clover**—A poor stand of red clover usually results from late sowing. Liming is often necessary to secure a good stand of red clover on orchard soils. Where these difficulties can be overcome red clover makes a very desirable cover crop.

**Crimson Clover**—Like red clover, this is a very desirable cover crop when a good stand is secured. Much winter killing has been reported on clay soils, but on lighter soils crimson clover appears to over winter in good condition and produces a large amount of organic matter.

**Winter Vetch**—This makes a very satisfactory cover crop and produces a large amount of green material. Vetch sometimes winter kills but where this is not encountered good results are secured. Rye and vetch make a very desirable combination cover crop and when plowed under add a large amount of organic material to the soil.

**Canada Field Peas**—A splendid cover crop for northern latitudes. This crop requires moist, cool weather and under such conditions makes a heavy growth. May also be combined with oats or rye.

Other crops are especially suited to local conditions. Even under some conditions native weeds have been utilized and have given very gratifying results. The safest practice is to grow cover crops that are adapted to, and known to succeed in, the particular locality under consideration.

### Green Manure Crops for Strawberries

The statement of what constitutes a good cover crop applies equally well to the requirements of a good green manure crop. As great a quantity of succulent organic matter, relatively rich in nitrogen, as it is possible to secure is the ultimate aim. Strawberry growers in southern Indiana are finding that the use of green manures is of great value in maintaining a high state of soil productivity. At the same time the unpleasant effect of scattering the large amounts of weed seeds frequently encountered following the use of barnyard manure is eliminated.

A double green manure crop of rye following soy beans is being used with great success. A hay type variety of soy bean is sown broadcast in late May or early June. The resulting growth is turned under in September before the stems begin to turn woody and the field is seeded to rye as soon as the soil is worked down. The rye is turned under early in the spring so that the ground may be put in shape to receive the strawberry plants by late March or early April. In this way a large amount of organic matter is incorporated in the soil during a single season and the resulting soil texture, even on rather sticky clay land, is a very great recommendation of the effectiveness of the practice.

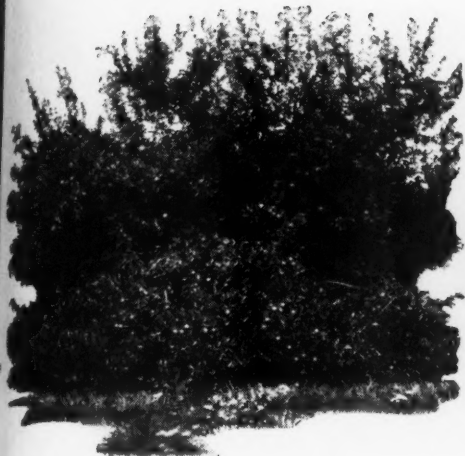
AMERICAN FRUIT GROWER



## Longer and Better Protection Against Codling Moth

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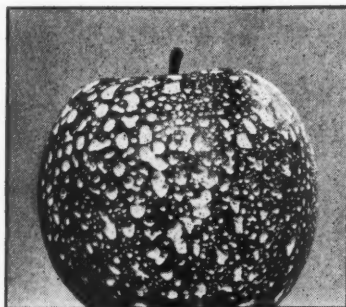
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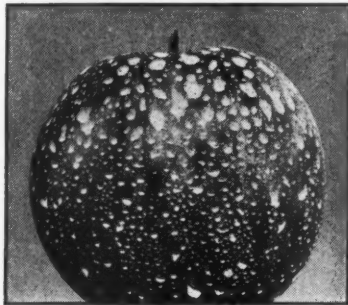
### Lab. No. 1431

This apple was given four sprays of Sherwin-Williams Arsenate of Lead — 3 pounds to 100 gallons of water. Total deposit 143 micrograms of unadulterated arsenic oxide per square inch . . . just 50% more killing power to the square inch than its sister apple, sprayed under identical conditions, but using Arsenate of Lead containing an astringent. S-W Arsenate of Lead contains no deflocculator or astringent, insuring the maximum possible deposit and high toxicity.



### Lab. No. 1432

This apple, identical in every respect to the one used in test 1431, was sprayed with an astringent type of Arsenate of Lead stated to contain 93% active ingredients and an alum content of 2¼% to 3%. Total deposit under identical spraying conditions yielded only 99 micrograms of arsenic oxide per square inch.



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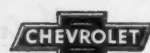


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